WHAT IS CLAIMED IS:

1. A current-driven display device comprising:

a plurality of data lines;

a plurality of scan lines formed generally orthogonal with the plurality of data lines;

an array of pixels driven by a current, each of the pixels being formed near a crossing of one of the data lines and one of the scan lines; and

at least one power supply line coupled to the pixels,

wherein a maximum average current density at a cross section of the power supply line is no greater than approximately 10^5 ampere per square centimeter (A/cm^2).

2. The device of claim 1, the cross section of the power supply line further comprising a width and a thickness.

3. The device of claim 1, each of the pixels further comprising an electroluminescence device.

4. The device of claim 3, the electroluminescence device further comprising an anode, a cathode, and an electroluminescence layer formed between the anode and the cathode.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

5. The device of claim 4, the electroluminescence layer further comprising an organic electroluminescence material.

6. The device of claim 4, the anode of the electroluminescence device being coupled to a first power supply line via a driving and controlling circuit.

7. The device of claim 4, the cathode of the electroluminescence device being coupled to a second power supply line.

8. The device of claim 2 wherein the width ranges from approximately 100 micro meters to 2000 micro meters.

9. The device of claim 2 wherein the thickness ranges from approximately 2000 angstroms to 6000 angstroms.

10. An electroluminescence display device comprising:

an array of pixels, each of the pixels further comprising a driving and controlling circuit and an electroluminescence device;

at least one first power supply;

at least one first power supply line coupling the pixels to the at least one first power supply;

at least one second power supply; and

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

at least one second power supply line coupling the pixels to the at least one second power supply,

wherein a maximum average current density at a cross section of each of the first or second power supply line is no greater than approximately 10^5 ampere per square centimeter (A/cm^2).

11. The device of claim 10, the cross-section of each of the first or second the power supply line further comprising a width and a thickness.

12. The device of claim 10, the electroluminescence device further comprising an anode, a cathode, and an electroluminescence layer formed between the anode and the cathode.

13. The device of claim 10, the electroluminescence device further comprising an organic light emitting diode.

14. The device of claim 12, the electroluminescence layer further comprising an organic electroluminescence material.

15. The device of claim 12, the anode of the electroluminescence device being coupled to one of the at least one first power supply line via the driving and controlling circuit.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

16. The device of claim 12, the cathode of the electroluminescence device being coupled to one of the at least one second power supply line via a contact hole.

17. A method of suppressing electromigration effects in a power supply line for a current-driven display device comprising the steps of:

providing an array of pixels, each of the pixels comprising an electroluminescence device;

providing at least one first power supply line;

providing at least one second power supply line;

electrically coupling each of the pixels to one of the at least one first power supply line and one of the at least one second power supply line;

providing a current to the pixels via the at least one first and second power supply lines; and

measuring a maximum average current density at a cross section of each of the at least one first and second power supply lines at no greater than approximately 10^5 ampere per square centimeter (A/cm^2).

18. The method of claim 17 further comprising the step of forming the electroluminescence device with an anode, a cathode, and an electroluminescence layer formed between the anode and the cathode.

19. The method of claim 18 further comprising the step of forming the electroluminescence layer with an organic electroluminescence material.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com